

# Stress Urinary Incontinence: An Overview

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## Abstract

Review describes about stress urinary incontinence. Risk factors, pathophysiology, basic diagnostic evaluation, treatment is explained in detail. Also the protocol used by physiotherapists is important to understand as it explains the need of exercises in physiotherapy management of stress urinary incontinence.

**Keywords:** Incontinence; Stress; Physiotherapy.

## INTRODUCTION

Urinary incontinence (UI) is common and mainly undertreated. About 50% of adult women suffer from this condition, but only some of them require medical care. The overall prevalence of urinary incontinence among non-pregnant women over the age of 20 has been reported to range from 10 to 17%. Prevalence rates above 50% have been reported in women over 65 years of age. However, not all women who develop urinary incontinence will have symptoms indefinitely. A

number of professional contexts were found to be strongly linked to urinary incontinence, including dirty and uncomfortable work surroundings, jobs that are unsafe and likely to result in accidents, feeling rushed, and prolonged awkward positions times, as well as carrying heavy weights. These results imply that urine incontinence was common among working women and that it was connected to both the working environment and occupational status. The prevalence of incontinence in younger women was found to be 28%, however information on the frequency of daily incontinence was not available. The cause of urine incontinence varied by age group among the women who reported having it among particular, urge incontinence was more common among older women. (70% among women >60 years vs. 45% among women ≤60 years) and younger women were proportionately more likely to experience.<sup>2</sup>

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## Risk Factors

Age, Issues specific to pregnancy, Parity, Mode of delivery, Pelvic floor dysfunction and urinary

incontinence among female athletes, Family history, other factors smoking, caffeine use, diabetes, stroke, depression, fecal incontinence, menopausal urinary tract syndrome/ vaginal atrophy, Surgery hormone replacement therapy, genitourinary surgery (e.g. hysterectomy) and radiotherapy.<sup>1,5</sup>

### *Pathophysiology*

Stress urinary incontinence (leakage which occurs during physical exertion) is a common problem of the closing mechanism of the bladder outlet. The urethral support structures and the sphincter structures that are in charge of the intrinsic urethral sphincter function comprise the bladder's closure mechanism. The patients suffering from stress

incontinence lose urine during coughing, sneezing, physical activities, etc. During a cough urethral closure pressure is known to rise simultaneously with abdominal pressure to keep the urethra closed in spite of great increases in intravesical pressure. Essentially, when one cannot effectively force close the urethra (maintain urethral closure pressure) stress urinary incontinence can result. Anatomical (pathologic support of the anterior vaginal wall) and functional (intrinsic sphincter insufficiency) factors are among the potential patho-physiological aspects of the continence system that contribute to SUI and neurophysiology of the urethral continence mechanism damage and proprioception deficiency), which may be a bridge between the anatomical and functional aspects.<sup>2,3,4</sup>

#### Basic Diagnostic Evaluation<sup>3,4</sup>

1. Urinary tract infection should be excluded by urinalysis
2. Genital atrophy, prolapse of the reproductive organs, and levator contraction strength are evaluated during a gynecologic examination.
3. A cough test with a full bladder can reveal stress incontinence.
4. Postvoid residual urine measurement with ultrasound or a single-use catheter provides information about bladder emptying.
5. A micturition diary can be used to track the frequency and volume of micturition. The patient measures the volume of urine voiding each time and logs it in the diary along with the time of voiding.
6. Perineal ultrasound can be used
  - To assess the mobility of the bladder neck when the patient presses or coughs (hypermobility of the urethra, funnel formation).
  - To visualize elevation of the bladder neck on contraction of the levator ani muscle (pelvic floor exercise).
  - To detect vesical and urethral diverticula.
  - To clarify the extent of prolapse of the anterior vaginal wall.
  - Used to visualize avulsions of the levator ani muscle and to monitor the condition of suburethral artificial slings and meshes.
7. Urodynamic studies which includes the filling behavior of the bladder evaluation (cystometry), the closing function of the urethra is measured (profilometry), and micturition is evaluated (uroflow, mictiometry).

### *Treatment<sup>2,3,4</sup>*

**Conservative Treatment:** Conservative treatment consists of lifestyle changes, such as the following: Weight-loss measures, change in drinking behavior (mainly abstinence from bladder irritating drinks such as coffee, tea, alcohol, and carbonated beverages, and an even distribution of fluid intake over the course of the day), Smoking cessation, Topical estrogen treatment of the vagina in case of tissue atrophy, Intravaginal support devices (e.g., the Arabin urethral pessary and aid in the prevention of incontinence (such as incontinence tampons). Pessary is an effective short-term management option for SUI, Kegels exercises also included.

**Surgery:** The American Women's Medical

Foundation (AWMF) stress incontinence guideline states that pelvic floor exercises should be attempted before considering surgery. The primary surgical procedure involves implanting a suburethral, tension free sling (also known as "tension-free vaginal tape," or TVT). There are currently options for postoperatively adjustable systems and single incision slings. The potential complications include: Bladder Perforation (2-5%), Persistent Bladder Emptying Dysfunction (5-10%), Urge Incontinence (5-20%), Bleeding/wHematoma (1-2%), Neural Damage (<1%); tape erosion into the vagina, bladder, or urethra (2-10%). Colposuspension is an alternative surgical procedure in which the paraurethral vaginal facial tissue is secured to Cooper's ligaments using an open or laparoscopic transabdominal approach.

### Recent Advances<sup>3,4</sup>

Behavioural therapy includes pelvic floor physiotherapy and instructions for use of pelvic floor muscles to prevent SUI. In the last five years, there has been an increasing amount of research that supports the use of pelvic floor muscle training (PFMT) for the treatment of SUI. The purpose of the systematic and customized PFMT exercise programme is to enhance the strength, endurance,

power, relaxation, or any combination of these qualities of the pelvic floor muscles. PFMT may be performed with adjunctive therapies such as vaginal cones and electrical muscle stimulation. PFMT builds pelvic floor strength with repeated muscle contractions and enhances conscious muscle pre-contraction prior to anticipate the increase in abdominal pressure such as coughing.

### Protocol

1. Exam, Strength	Pelvic examination Perineometry with biofeedback
2. Education and Exercises	PFM with TA contractions (5x10 times) supine - with static back, static gluteals PFM with TA contractions (5x10 times) - adductor towel squeeze PFM with TA with clamshell (10 times) HEP (home exercise program)
3. Exercises and Biofeedback	Diaphragmatic breathing exercises PFM with TA contractions(5x10 times) supine (same as above) Pelvic floor contractions- adductor, clamshell(same as above) Pelvic floor with TA - butterfly bridges butterfly bridges with single leg hip fall out Biofeedback with internal sensor including-pelvic floor activity baseline;8 repetitions, holding for 6 secs , 3,4 quick flicks
4. HEP, Biofeedback, and Modification	HEP, Biofeedback Modification:-increases repetitions up to 12,increase hold up to 8 secs, increase quick flicks, change position from supine to sitting, Standing, knack if needed, knack along with coughing, sneezing,blowing nose etc.

PFM-pelvic floor muscles, TA-transverse abdominis, HEP- home exercise program.

-Keisha.Y Dyer.A randomized clinical trial comparing pelvic floor muscle training to a pilates exercise program for improving pelvic floor muscle strength. Int Urogynecol J (2010) 21:401-408



Back to Back Sitting

Tanzberger exercise concept found by a German physical therapist, Renate Tanzberger is used. The goal of this programme is to integrate the function of the muscles as a procedural program by improving the sensory awareness and functional retraining using a Swiss ball.

### REFERENCES

1. Balalau, Denisa Oana, Stanescu, Anca Daniela *et al.* "The analysis of risk factors associated with women's urinary incontinence-literature review," Journal of Mind and Medical Sciences 2021.Vol. 8: Iss. 1, Article 8.
2. Maria Giroux, Corrine Jabs, Susan McLellan *et al.* Effectiveness of pessary and pelvic floor physiotherapy alone and in combination for management of stress and mixed urinary incontinence: a literature review. Gynecol Pelvic Med 2020;3 :3.
3. You (Maria) Wu and Blayne Welk. Revisiting current treatment options for stress urinary incontinence and pelvic organ prolapse: a contemporary

- literature review. Research and Reports in Urology 2019;11 179-188.
4. Katharina Jundt, Ursula Peschers and Heribert Kenterich. The Investigation and Treatment of Female Pelvic Floor Dysfunction. Deutsches Ärzteblatt International 2015; 112: 564-574.
  5. Taruni Sharma and Pratima Mittal. Risk Factors for Stress Urinary Incontinence in Women. International Journal of Contemporary Medical Research. Factors for 2017. Vol 4: Issue 10.
  6. Tithi Gadhavi. Effect of tanzberger exercise versus kegel exercise on pelvic floor muscle Strength in postmenopausal women with stress incontinence-an Experimental study. International Journal of Recent Scientific Research 2017 Vol. 8, Issue, 1, pp. 15427-15433.2020 .202017.2017.

